



Federal Aviation
Administration

2010 FAA Worldwide Airport Technology Transfer Conference and Exposition

NEXT GENERATION OF AIRPORT TECHNOLOGY

April 20-22, 2010

Atlantic City, New Jersey, USA

Conference Program

Sponsored by:

Federal Aviation Administration • American Association of Airport Executives • AvPORTS • Hi-Tec Systems, Inc. • SRA International, Inc.

Hosted by:


Atlantic City International Airport



2010 FAA Worldwide Airport Technology Transfer Conference and Exposition

TUESDAY, APRIL 20

7:30 a.m. – 6 p.m. **Registration** *Ballroom Foyer*

7:30 – 8:30 a.m. **Continental breakfast with Exhibitors** *Ballroom A*
 *Sponsored by AvPorts*

8:30 – 10:15 a.m. **Welcome and Opening Remarks** *Ballroom B*

Emcee: Jim Patterson
 Program Manager, Federal Aviation Administration Airport Safety R&D Sub-Team

Speakers: Thomas Rafter, A.A.E.
 Airport Director, Atlantic City International Airport

Alex Kashani, A.A.E.
 Chairman, AAAE Technical Services Committee

Michael J. O'Donnell, A.A.E.
 Director, Federal Aviation Administration Office of Airport Safety & Standards

Yong Wang
 Chief Aerodromes Section ANB/ICAO

Cyle Cantrell
 Program Manager, Chicago Department of Aviation

10:15 – 10:45 a.m. **Coffee break with Exhibitors** *Ballroom A*
 *Sponsored by SRA International, Inc.*

10:45 a.m. – 12:30 p.m. **Concurrent sessions**

Session 1a: **Airport Pavement Design Issues** *Ballroom B*

Moderator: David Brill
 Federal Aviation Administration

Titles/Speakers: What's My Pavement Worth? – Monty Wade

Comparison of US and French rational procedures for the design of airfield pavements – Jean-Noel Theillout

Adaptation of the French rational design procedure to airfield pavement: the Alize-Airfield software – Jean-Noel Theillout

Analysis and Design of Airfield Pavements Using Laboratory Performance Tests and Mechanistic-Empirical Methodology – Lorina Popescu

Session 1b: **Airport Incursion Management, Deicing, Heliport Lighting and Safety Management Systems (SMS)** *Horizon Room*

Moderator: Donald Gallagher
 Federal Aviation Administration

Titles/Speakers: Heliport Perimeter Lighting Research and Enhancements – Robert Bassey

General Safety Management Systems Gap Analysis Survey for US Airport – Hmid Shirazi

GPS, GIS & Wireless Technologies for Effectively Supporting Airfield Safety Including Incursion Reduction – Paul Cudmore

Obtaining Consistent Aircraft Deicing Results Using Automation and Proven Technology – Abhijit Verekar

12:30 – 1:30 p.m. **Lunch with Exhibitors** *Ballroom A*

1:30 – 3:15 p.m. **Concurrent sessions**

Session 2a: **Airport Pavement Maintenance and Management** *Ballroom B*

Moderator: Jeff Gagnon
 Federal Aviation Administration

Titles/Speakers: The Development of a Materials-Related Distress Rating Procedure for Concrete Airfield Pavements – David Peshkin

Application of a new materials-related distress rating procedure to the evaluation of Portland cement concrete airfield pavements – David Peshkin

Introduction of Airport Pavement Evaluation Methodology & Management System of Korea Airports Corporation – Joung Gi Houn

Technical Notes on ASTM D 5340 for Pavement Condition Survey – Albert Larkin



Agenda



**Federal Aviation
Administration**

New Zealand Airfield Pavement Surface
Types - Evaluation, Design, Maintenance and
Rehabilitation - John Marsh

Session 2b: **Airport Fire Fighting
Studies** *Horizon Room*

Moderator: Keith Bagot
Federal Aviation Administration

Titles/Speakers: The New Large Aircraft Test Facility at Tyndall
AFB – John Hawk & Michael McDonald

Computational Flame Characterization of
New Large Aircraft Immersed in Accidental
Hydrocarbon Pool Fires – Chris Menchini

Crash Simulation of Transport Aircraft for
Predicting Fuel Release – Robert Bocchieri

Composite Aircraft Fire Protection – Doug
Dierdorf

3:15 – 3:45 p.m. **Refreshment break
with Exhibitors** *Ballroom A*

3:45 – 5 p.m. **Concurrent sessions**

Session 3a: **Airport Pavement Modeling
and Simulation** *Ballroom B*

Moderator: Hao Yin
Gemini Technology

Titles/Speakers: Tensional State Activated by Nose Gear of
the Airbus 380-800 – Bonvino Umberto

Joint Load Transfer Efficiency of Rigid
Pavement Considering Dynamic Effects
Under a Single Moving Load – Edward Guo

Computational Simulations of a Full-Scale
Reflective Cracking Test – Jorge Garzon

Three-Dimensional Finite Element Analysis
of Top-Down Cracking on Airfield Rigid
Pavements – Francisco Evangelista

Session 3b: **Runway Safety Areas and
Engineered Material Arresting
Systems (EMAS)** *Horizon Room*

Moderator: Nick Subbotin
Federal Aviation Administration

Titles/Speakers: Recent Advances in EMAS Technology –
Silvia Valentini

Determining Aircraft Stopping within an
EMAS Considering Current Aircraft Types –
Ernie Hemsfield

Risk Assessment of RSA Alternatives at San
Francisco International Airport – Manuel Ayres

5:30 – 6:30 p.m. **Networking Reception
with Exhibitors** *Ballroom A*

WEDNESDAY, APRIL 21

7:30 a.m. – 5 p.m. **Registration** *Ballroom Foyer*

7:30 – 8:30 a.m. **Continental breakfast
with Exhibitors** *Ballroom A*

8:30 – 10:15 a.m. **Concurrent sessions**

Session 4a: **Airport Technology Case
Histories** *Ballroom B*

Moderator: Don Barbagallo
Federal Aviation Administration

Titles/Speakers: Rubber Tire Buildup Removal at Hartsfield-
Jackson Atlanta International Airport –
Quintin Watkins

A Case Study: Upgrade of the Terminal Apron
at Mumbai International Airport – Paul
McCullagh & Manoj Tipnis

Rehabilitation of Runway 9-27 at IAH
– Dan Zollinger

Night Paving in Trinidad – Achieving Quality
– Louis Fredrick

23-Year Assessment and Total
Reconstruction of Apron at Ellington Airport
using Beam on Elastic Foundation Technique
– Adil Godiwalla

Session 4b: **Bird Strikes and Avian
Radar 1** *Horizon Room*

Moderator: Ryan King
Federal Aviation Administration

Titles/Speakers: Locating Avian Radars at Civil Airports –
David Mayer

Managing Data from Avian Radar Systems –
Siddhartha Majumdar

Observational Validation of Avian Radar
Systems – Wendell Bunch

10:15 – 10:45 a.m. **Coffee break with Exhibitors** *Ballroom A*

10:45 a.m. – 12:30 p.m. **Concurrent sessions**

Session 5a: **Airport/Aircraft
Compatibility Issues** *Ballroom B*

Moderator: Michael Roginski
Boeing

Titles/Speakers: Full-Motion Aircraft Simulator Enhancements
to Improve Cockpit Response to Pavement
Roughness – Skip Hudspeth

COMFAA 3.0-An FAA Computer Program to
Compute Pavement Classification Numbers
(PCN) – Gordon Hayhoe

Agenda (continued)

Correspondence Between ICAO ACN
Overload Criteria and Cumulative Damage
Factor Calculations – Gordon Hayhoe

Effect of High Aircraft Tire Pressure on Near-
Surface Damage of Flexible Pavements –
Imad Al-Qadi

Session 5b: **Bird Strikes and Avian Radar 2 & Runway Friction** *Horizon Room*

Moderator: Nick Subbotin
Federal Aviation Administration

Titles/Speakers: Bird Strike Threat Assessment Using Avian
Radar Information – Jinfeng Wang

Determining Bird Collision Risk with Terminal
Doppler Weather Radar (TDWR) – Sidney
Gauthreaux, Jr.

Friction: Science or Fiction - Fundamentals of
Basic Friction Assessment – Tim Neubert

12:30 – 1:30 p.m. **Lunch with Exhibitors** *Ballroom A*

1:30 – 3:15 p.m. **Concurrent sessions**

Session 6a: **Construction Materials and Methods 1** *Ballroom B*

Moderator: Navneet Garg
Federal Aviation Administration

Titles/Speakers: Evaluation of Stone Matrix Asphalt (SMA) for
Airfield Pavements – Ray Brown

Techniques for Mitigation of Reflective
Cracks in HMA Overlays – Harold Von Quintus

Guidelines for Airfield Rubblization – Mark
Buncher

Guidelines for Use of Highway Specifications
– Bob Boyer

Effect of Deicing Chemicals on HMA Airfield
Pavements – Don Christensen

Session 6b: **Airport Foreign Object Debris (FOD) Detection** *Horizon Room*

Moderator: Holly Cyrus
Federal Aviation Administration

Titles/Speakers: Performance Assessment of FOD Detection
Systems – Ed Herricks

Protocol and Procedures for FOD Detection
System Performance Assessments: Radar-
based & Dual Sensor Systems – Elizabeth
Woodworth

Procedures for the Performance Assessment
of an Electro Optical FOD Detection System –
Peter Lazar



The Performance Assessment of a Mobile
FOD Detection System – Ed Herricks

3:15 – 3:45 p.m. **Refreshment break with Exhibitors** *Ballroom A*

3:45 – 5:30 p.m. **Concurrent sessions**

Session 7a: **Construction Materials and Methods 2** *Ballroom B*

Moderator: Gary Mitchell
American Concrete Pavement Association

Titles/Speakers: Development and Validation of Core Ring
Residual Stress Test in Concrete Pavements –
David Lange

Evaluation of ASR Potential of Aggregates in
Presence of Deicing Chemicals – Prasada
Rangaraju

Multiple Laboratory Study of Flexural Beam
Strength Results – Joseph Reiter

Use of the Superpave Gyrotory Compactor
as a Predictor of Field Performance of
Unbound Material – Beena Sukumaran

Laboratory Tests for Granular Materials for
Flexible Airfield Pavements – Lulu Edwards

Session 7b: **Nondestructive Testing and Back-Calculation** *Horizon Room*

Moderator: Albert Larkin
Federal Aviation Administration

Titles/Speakers: Back-Calculation of Airfield Pavement
Structures Based on Wave Propagation
Theory – Kunihiro Matsui

Towards a Dynamical Back-Calculation
Procedure for HWD: A Full-Scale Validation
Experiment – Michael Broutin

Seismic Methods used to check Strength of
Concrete Runway Reconstruction – Dean Rue

Delamination Detection of HMA Airport
Pavements with NDT Devices – Soheil
Nazarian

Rapid 1-mm Survey of Airport Runways with
Laser Imaging Technology – Kelvin Wang



THURSDAY, APRIL 22

7:30 – 10:45 a.m. **Registration** *Ballroom Foyer*

7:30 – 8:30 a.m. **Continental Breakfast with Exhibitors** *Ballroom A*

8:30 – 10:15 a.m. **Concurrent sessions**

Session 8a: **Field Instrumentation and Testing** *Ballroom B*

Moderator: Josh Davis
SRA International

Titles/Speakers: Field Instrumentation and Testing – Navneet Garg

Field testing and Modeling of the Italian Smart Runway Instrumentation – Silvia Portas

FAA Pavement Grooving Requirements – Albert Larkin

Automatic Runway Groove Identification and Evaluation – Qiang Wang

The Concept of Harvesting Energy from Pavement: The Piezoelectric Way – Hongduo Zhao

Session 8b: **Innovations in Airport Pavement Construction** *Horizon Room*

Moderator: Renaldo Aponte
SRA International

Titles/Speakers: Hybrid Reflective-Crack Relief System at Greater Peoria Regional Airport: A Case Study – William G. Buttlar

Best Practices for Airport Design/Build Procurement – Chris Olidis

Use of Recycled ASR PCC Materials in HMA Airfield Pavements – Anol Mukhopadhyay

Batching Effects on Properties of Recycled Concrete Aggregates for Airfield Rigid Pavements – Andres Salas

Sustainable Construction Practices in Airport Pavement Rehabilitation Projects – Eileen M. Velez-Vega

10:15 – 10:45 a.m. **Coffee break with Exhibitors** *Ballroom A*

10:45 a.m. – 12:30 p.m. **Concurrent sessions**

Session 9a: **Full-Scale Testing** *Ballroom B*

Moderator: Jim Hall
ARA

Titles/Speakers: Linking Granular Base/Subbase Residual

Deformations in NAPTF Pavement Test Sections to Transverse Rut Profiles – Erol Tutumluer

Pavement Strength and Beam Flexural Strength – Edward Guo

Key Findings from NAPTF Testing of Unbonded PCC Overlays – Shelley Stoffels

High Tire Pressure and Temperature Effects on Asphalt Concrete Permanent Deformation using Customized Asphalt Pavement Analyzer (APA) – Injun Song

Full-Scale Aircraft Tire Pressure Tests – Cyril Fabre

Session 9b: **HMA Mix Design for Airport Pavements** *Hozizon Room*

Moderator: Murphy Flynn
Federal Aviation Administration

Titles/Speakers: Presentation of the Guide to the Application of European Standards for Bituminous Mixtures and Surface Dressings for Airport Pavements – Jean-Noel Theillout

Research and Testing to Establish Updated Specifications for FAA Airfield Quality Hot Mix Asphalt – Navneet Garg

Development of Criteria for using the Superpave Gyratory Compactor to Design Airport Pavement Mixtures – Ray Brown

Superpave Gyratory Compaction Requirements for FAA's Hot Mix Asphalt Specification – Don Christenson

Design of Hot Mix Asphalt for Airfield Pavements Using the Superpave Gyratory Compactor – Allen Cooley

12:30 – 1:30 p.m. **Lunch On Your Own**

1:30 – 4 p.m. **Tour of FAA William J. Hughes Technical Center and Atlantic City International Airport**
(Previous registration required)



Sponsor Directory



Federal Aviation Administration

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Federal Aviation
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The FAA's William J. Hughes Technical Center is the premier aviation federal laboratory. The Airport Technology R&D branch's mission is to help the FAA determine policy, guidelines, procedures and technologies to ensure this nation's airports can accommodate projected air traffic growth safely, cost effectively and efficiently.

American Association of Airport Executives

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Exhibitor Directory



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FAA's Technical Center is the premier aviation federal laboratory. T2 encourages collaborative partnerships with governments, academia, and other entities to leverage resources for research efforts.

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